The invention claimed is:

1. An isolation plating medium for the identification of target bacteria in a sample containing target bacteria and a plurality of other bacteria comprising a mixture of (1) a carbohydrate capable of being a metabolic source for the target bacteria and supporting colonies of the target bacteria, (2) a pH indicator dye that changes the color of the plating medium responsive to a change in the pH of the medium to a first color different from the color of the medium, (3) a first substrate that does not react with the target bacteria and injects color into the medium of a second color responsive to the presence of an enzyme produced by a reaction between other bacteria and said first substrate, the second color contrasting with the first color and the color of the medium, (4) a second substrate that does not react with the target bacteria and injects color into the medium of substantially the same color as the second color responsive to the presence of an enzyme produced by a reaction between other bacteria and said second substrate, the first substrate reacting to the presence of an enzyme in a significantly shorter time than the second substrate, and (5) an ingredient for thickening the mixture in sufficient quantity to solidify the mixture.

2. An isolation plating medium for the identification of target bacteria in a sample containing target bacteria and a plurality of other bacteria comprising the medium of claim 1 wherein the carbohydrate is one or more members of the group consisting of 2-Deoxy-D-Ribose, xylose, mannitol, dulcitol, sorbitol, L-rhamnose and D-arabitol.

3. An isolation plating medium for the identification of target bacteria in a sample containing target bacteria and a plurality of other bacteria comprising the medium of claim 1 wherein the first substrate and the second substrate are members of the group consisting of 5-bromo-4-chloro-3-indoxyl-beta-D-galactopyranoside, 5-bromo-6-chloro-3-indoxyl-beta-D- galactopyranoside, 3-indoxyl-beta-D-galactopyranoside, 6-chloro-3-indoxyl-beta-D- galactopyranpside, 4-nitrophenyl-beta-D-galactopyranoside, 2-nitrophenyl-beta-D- galactopyranoside, 5-iodo-3-indoxyl-beta-D-galactopyranoside, 4-methylumbelliferyl-beta-D-galactopyranoside and N-methylindoxyl-beta-D-galactopyranoside.

4. An isolation plating medium for the identification of target bacteria in a sample containing target bacteria and a plurality of other bacteria comprising the medium of claim 1 wherein the first substrate is 5-bromo-4-chloro-3-indoxyl-beta-D- galactopyranoside, and the second substrate is 3-indoxyl-beta-D-galactopyranoside.

5. An isolation plating medium for the identification of Salmonella from a sample containing Salmonella and a plurality of other bacteria comprising the mixture of claim 2 in combination with an inhibitor of the group consisting of bile salt, bile salt #3, tellurite, sodium novobiocin and cefsulodin.

6. An isolation plating medium for the identification of target bacteria in a sample containing a plurality of different bacteria comprising the medium of claim 1 in combination with a chromogenic substrate enhancer.

7. An isolation plating medium for the identification of target bacteria in a sample containing a plurality of different bacteria comprising the medium of claim 3 wherein the chromogenic substrate enhancer consists of at least one member of the group isopropyl-beta-D-thiogalactopyranoside, 1-O- -beta-D-galactopyranoside, Ethyl-beta-D-thiogalactopyranoside, and Methyl--beta-D-thiogalactopyranoside.

8. An isolation plating medium for the identification of Salmonella from a sample containing Salmonella and a plurality of other bacteria comprising a mixture of (1) a carbohydrate capable of being a metabolic source for Salmonella and supporting colonies of Salmonella bacteria, (2) a pH indicator dye that changes the color of the plating medium responsive to a change in the pH of the medium to a first color different from and contrasting with the color of the medium, (3) a first chromogenic substrate that does not react with Salmonella and injects color into the medium of a second color responsive to the presence of beta-galactosidase, the second color contrasting with the first color and the color of the medium, (4) a second chromogenic substrate that does not react with Salmonella and injects color into the medium of approximately said second color responsive to the presence of beta-galactosidase, the first substrate responding to the presence of beta-galactosidase more quickly than the second substrate, and (6) an ingredient for thickening the mixture in sufficient quantity to solidify the mixture.

9. An isolation plating medium for the identification of Salmonella from a sample containing Salmonella and a plurality of other bacteria comprising the mixture of claim 8 wherein the carbohydrate is 2-Deoxy-D-Ribose, and the first and second chromogenic substrates are 5-bromo-4-chloro-3-indoxyl-beta-D- galactopyranoside and 3-indoxyl-beta-D- galactopyranoside, respectively.

10. An isolation plating medium for the identification of Salmonella from a sample containing Salmonella and a plurality of other bacteria consisting essentially of a mixture of (1) at least

one carbohydrate that is metabolizable by Salmonella and is of the group consisting of 2-Deoxy-D-Ribose, xylose, mannitol, dulcitol, sorbitol, L-rhamnose and D-arabitol, (2) a pH indicator dye that changes the color of the plating medium to a first color responsive to a change in the pH of the medium, (3) a first chromogenic substrate that does not react with Salmonella bacteria and changes color to a second color responsive to the presence of galactosidase, (4) a second chromogenic substrate that does not react to Salmonella bacteria and changes color to approximately the same second color responsive to the presence of galactosidase, the first substrate reacting to the presence of beta-galactosidase more quickly than the second substrate, and the first and second colors contrasting with each other and with the color of the medium, wherein the first substrate and the second substrate are members of the group consisting of 5-bromo-4-chloro-3-indoxyl-beta-D-galactopyranoside, 5-bromo-6-chloro-3-indoxyl-beta-D-galactopyranoside, 3-indoxyl-beta-D- galactopyranoside, 6-chloro-3-indoxyl-beta-D- galactopyranoside, 4-nitrophenyl-beta-D-galactopyranoside, 2-nitrophenyl-beta-D-galactopyranoside, 5-iodo-3-indoxyl-beta-D-galactopyranoside, 4-methylumbelliferyl-beta-D- galactopyranoside, and N-methylindoxyl-beta-D-galactopyranoside, and (5) an ingredient for thickening the mixture in sufficient quantity to solidify the mixture.

11. An isolation plating medium for the identification of Salmonella from a sample containing Salmonella and a plurality of different bacteria comprising the mixture of claim 10 wherein the ingredient for thickening the mixture is agar.

12. The method of detecting the presence of target bacteria in a sample containing target bacteria and other bacteria comprising the steps of inoculating a solid plating medium with said test sample, wherein said plating medium comprises a mixture of (1) a carbohydrate capable of being a metabolic source for the target bacteria and supporting colonies of the target bacteria, (2) a pH indicator dye that changes the color of the plating medium responsive to a change in the pH of the medium to a first color different from the color of the medium, (3) a first substrate that does not react with the target bacteria and injects color into the medium of a second color responsive to the presence of an enzyme produced by a reaction between other bacteria and said first substrate, the second color contrasting with the first color and the color of the medium, (4) a second substrate that does

not react with the target bacteria and injects color into the medium of substantially the same color as the second color responsive to the presence of an enzyme produced by a reaction between other bacteria and said second substrate, the first substrate reacting to the presence of an enzyme in a significantly shorter time than the second substrate, and (5) an ingredient for thickening the mixture in sufficient quantity to solidify the mixture, thereafter incubating said plating medium for a sufficient period to obtain colonies of bacteria producing one or more of said colors, and examining the plating medium for colonies of said first color.

13. The method of detecting the presence of target bacteria in a sample containing target bacteria and other bacteria comprising the steps of claim 12 wherein the carbohydrate is one or more members of the group consisting of 2-Deoxy-D-Ribose, xylose, mannitol, dulcitol, sorbitol, L-rhamnose and D-arabitol.

14. The method of detecting the presence of target bacteria in a sample containing target bacteria and other bacteria comprising the steps of claim 12 wherein the first substrate and the second substrate are members of the group consisting of 5-bromo-4-chloro-3-indoxyl-beta-D- galactopyranoside, 5-bromo-6-chloro-3-indoxyl-beta-D- galactopyranoside, 3-indoxyl-beta-D- galactopyranoside, 6-chloro-3-indoxyl-beta-D- galactopyranpside, 4-nitrophenyl-beta-D-galactopyranoside, 2-nitrophenyl-beta-D- galactopyranoside, 5-iodo-3-indoxyl-beta-D-galactopyranoside, 4-methylumbelliferyl-beta-D-galactopyranoside and N-methylindoxyl-beta-D-galactopyranoside.

15. The method of detecting the presence of target bacteria in a sample containing target bacteria and other bacteria comprising the steps of claim 12 1 in combination with a chromogenic substrate enhancer.

16. The method of detecting the presence of Salmonella in a sample containing Salmonella and other bacteria comprising the steps of claim 12 , wherein the carbohydrate capable of being a metabolic source for the target bacteria and supporting colonies of the target bacteria is one or more members of the group consisting of 2-Deoxy-D-Ribose, xylose, mannitol, dulcitol, sorbitol, L-rhamnose and D-arabitol, and wherein the first substrate and the second substrate are

members of the group consisting of 5-bromo-4-chloro-3-indoxyl-beta-D- galactopyranoside, 5-bromo-6-chloro-3-indoxyl-beta-D- galactopyranoside, 3-indoxyl-beta-D- galactopyranoside, 6-chloro-3-indoxyl-beta-D- galactopyranpside, 4-nitrophenyl-beta-D-galactopyranoside, 2-nitrophenyl-beta-D-galactopyranoside, 5-iodo-3-indoxyl-beta-D-galactopyranoside, 4-methylumbelliferyl-beta-D-galactopyranoside and N-methylindoxyl-beta-D-galactopyranoside.